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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,041	12/08/2005	Kai Thiele	281754US0PCT	9444
22850	7590	05/13/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER FRANK, NOAH S	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			05/13/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
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jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,041	<b>Applicant(s)</b> THIELE ET AL.	
	<b>Examiner</b> NOAH FRANK	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 5, 14, 16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5, 14, 16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malz et al. (WO 02/02684) in view of Gupta et al. (US 5,175,349).

Citations of Malz refer to US 6,995,230, the English equivalent.

Considering Claims 5, 14, 16, and 18: Malz et al. teaches stabilizers containing at least two phenolic groups bonded to one another via a connecting radical which is a polyol with a number-average molecular weight of from 100xF g/mol to 150xF g/mol, where the term F is the number of phenolic groups in the molecule (Abs). The particularly preferred stabilizers are those comprising two compounds according to Formula I (3:25-35), bonded via polytetrahydrofuran or polyethylene glycol (4:40-55). Such compounds correspond to the claimed stabilizers X and XX. These compounds have molecular weights of approximately 800-900.

Malz does not teach using these compounds to stabilize isocyanates. However, Gupta et al. teaches using hindered phenol compounds (1:50-60), corresponding to the compounds of Formula I of Malz, for stabilizing organic polyisocyanates (1:1-10). Gupta uses these stabilizers in an amount from 30 to 100 ppm (2:60-65) in a mixture of

tolylene-2,4-diisocyanate and tolylene-2,6-diisocyanate (2:45-55). Gupta also teaches using the stabilized polyisocyanates in the production of polyurethanes (2:30-40). Malz and Gupta are analogous art because they are from the same field of endeavor, namely hindered phenol stabilizers. At the time of the invention a person of ordinary skill in the art would have found it obvious to have used the stabilizers in isocyanate mixtures, as taught by Gupta, as a known use of hindered phenol compounds.

### ***Response to Arguments***

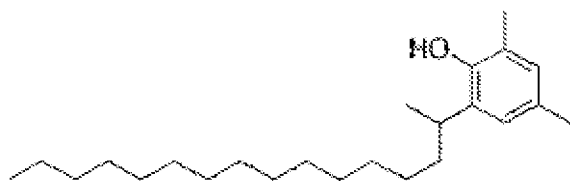
Applicant's arguments filed 1/19/10 have been fully considered but they are not persuasive.

In response to applicant's arguments that there is nothing in Malz or Gupta that suggests that the stabilizers are interchangeable, both compounds are hindered phenols, the only substantial difference being that the compounds of Malz are the diesters, whereas those of Gupta are the monomeric acids. Gupta additionally teaches that derivatives of carboxylic acids, such as esters, are generally used as stabilizers (1:65-2:5). Gupta also teaches that the stabilized polyisocyanates may be used with advantage for the production of polyurethanes (2:30-40). Gupta's stabilizers, while used to stabilize isocyanates, also are present in the final polyurethane product, and will continue to function as stabilizers. The skilled artisan has a reasonable expectation of success that the diester hindered phenols of Malz would stabilize isocyanates, as Gupta teaches the monomeric acids and esters to stabilize isocyanates. Furthermore, applicant has admitted that the use of 3,5-di-tert-butyl-4-hydroxyphenolpropionic esters

are known for stabilizing isocyanates from WO 99/48863 (¶0007 of instant application).

The compounds of Malz are simply the diester, and would be assumed to have the same effect on isocyanates.

In response to applicant's allegations of unexpected results, Table 1 compares the inventive compound against two types of hindered phenols, Irganox 1141 and Irganox 1076. Irganox 1141 is the compound below:



Irganox 1141 is a much less hindered phenol and lacks carboxylic acid or ester functionality. It does not compare favorably with the closest prior art for stabilizing isocyanates, and as such, no comparisons can be drawn. Irganox 1076, on the other hand, is an ester of 3,5-di-tert-butyl-4-hydroxyphenolpropionic acid. However, it is not until week four or six that a substantial difference in alpha value is seen. Additionally, as Irganox 1076 is the monoester, and the inventive is the diester, it would take 1200 ppm of Irganox 1076 to equal the amount of hindered phenol groups in the inventive compound. As such, the showing of unexpected results is not persuasive.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NOAH FRANK whose telephone number is (571)270-3667. The examiner can normally be reached on M-F 9-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NF  
4-27-10

/Marc S. Zimmer/  
Primary Examiner, Art Unit 1796